WATER SUPPLY OUTLOOK

KOOTENAI RIVER BASIN

MONTANA

AS OF:

APRIL 1, 1963

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

The water supply during the spring and summer months in the Kootenai River drainage is forecast to be 70 percent of the 1943-57 average and about 17 percent less than last year.

Streams tributary to the Kootenai River in Montana should flow 65 to 75 percent of last year.

Snow surveys made near the first of April in Canada and Montana indicate the mountain snow pack is 74 percent of last year and 65 percent average.

Report Prepared By:

P. E. Farnes
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Soil Conservation Service
Box 855, Bozeman, Montana

Data included in this report were obtained in cooperation with other Federal, State and private organizations.

THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY

USDA-SCS-LINCOLN, NEBR. 1962

5,L-16,507.1

LEGEND

- 13E2 SNOW SURVEY COURSE
- 12D2M SOIL MOISTURE STATION
- 13B3A AERIAL MARKER AT SNOW COURSE
- 0125 STREAM GAGING STATION
- DRAINAGE
- S. C. D. BOUNDARY
- WATERSHED BOUNDARY
- HIGHWAY
- TOWN
- COUNTY BOUNDARY
- STATE BOUNDARY

SCALE 10 5 0 10 MILES

USDA-SCS-LINCOLN NEBR. 1962

5,L-16,507.2

WATER SUPPLY FORECASTS

WATERSHED I

AS OF APRIL 1, 1963

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	KOOTENAI RIVER					
3030	Libby (at)	Apr-Sept	5500	70	6632	7723
		Apr-July	4650	70	5707	6694
3050	Leonia (at)	Apr-Sept	6280	70	7605	8907
		Apr-July	5330	68	6603	7817

*PROVISIONAL DATA FURNISHED BY U.S. GEOLOGICAL SURVEY

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD).

SNOW SURVEY DATA

AS OF APRIL 1, 1963

(inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
15B11	Baree Creek	5500	4/1	94	31.7	51.2	48.7*
14A4	Brush Creek	5000	3/25	21	6.8	10.7	15.2*
Can. 10	Fernie	3500				9.6	9.3
Can. 12A	Field	4200	3/31	17	4.3	5.5	5.2
Can. 43	Gray Creek	5100	3/28	51	13.5	18.7	19.8*
Can. 33	Kicking Horse	5400	3/31	51	14.2	12.8	14.9*
Can. 20B	Kimberley	3800	3/31	10	3.5	7.3	6.8
Can. 32	Marble Canyon	5000	3/28	42	11.5	9.0	13.9*
Can. 10B	Morrissey Ridge	6100	4/1	75	23.8	-	-
Can. 10A	New Fernie	4100				15.4	15.4*
15A1	Red Mountain	6000	3/27	41	13.1	15.8	21.5
Can. 8A	Sinclair Pass	4500	3/29	7	1.5	3.8	6.0
Can. 20A	Sullivan Mine	5100	3/29	36	9.7	11.5	15.4*
Can. 41	Upper Elk River	4400	3/31	5	1.0	6.4	8.3*
14A7	Weasel Divide	5450	3/28	72	25.2	30.6	33.4

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD). *ADJUSTED AVERAGE

WATER SUPPLY OUTLOOK

FLATHEAD RIVER BASIN

MONTANA

AS OF:

APRIL 1, 1963

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

The water supply outlook for the coming irrigation season in the Flathead River drainage is fair to good.

Streamflow during the spring and summer months is forecast to be 15 to 30 percent below the 1943-57 average and 15 to 25 percent less than last year.

Snow surveys made near the first of April indicate the mountain snow pack is 68 percent of last year and 32 percent less than the 1943-57 average. Nearly all of the low elevation snow has melted because of above normal temperatures during March.

Reservoir storage on the Flathead Irrigation Project is more than last year and almost average.

Soil moisture is above average and generally near field capacity at Desert Mountain and Marias Pass.

Report Prepared By:

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Data included in this report were obtained in cooperation with other Federal, State and private organizations.

THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY

USDA SCS LINCOLN NEBR 1962

5,L-16,398.1

CANADA
LEGEND
13 E 2 SNOW SURVEY COURSE
12 D2M SOIL MOISTURE STATION
13B3A AERIAL MARKER AT SNOW COURSE
0125 STREAM GAGING STATION
DRAINAGE
S. C. D. BOUNDARY
WATERSHED BOUNDARY
HIGHWAY
TOWN
COUNTY BOUNDARY
STATE BOUNDARY
N
14A7
14A6
FLATHEAD
13A3
13A8
13A14
13A6
13A16
13A7
93
FLATHEAD S. C. D.
LAKE MCDONALD
STILLWATER
OLNEY
14A3
3585
WEST GLACIER
3555
MIDDLE
13A2
13A2M
CORAM
WHITEFISH
COLUMBIA FALLS
40
3630
3625
14A4
14A5
RIVER
PINNACLE
2
3A5
13A5M
SOUTH
BLACKTAIL
14A9
KALISPELL
ASHLEY LAKE
13A10
13A17
FORK
93
F L A T H E A D
MARION
SOMERS
3710
BIGFORK
3700
2
LITTLE
13A13
13A12
13B11
FLATHEAD LAKE
SWAN LAKE
SWAN LAKE
SWAN
13B2
14B3
35
ELMO
LAKE CO. S. C. D.
13B4
FORK
POLSON
13B3
28
BITTERROOT RIVER
HOT SPRINGS
3720
L A K E
SALMON L.
13B13A
RONAN
CONDON
RIVER
10A
SANDERS
13B5
13B14A
PLAINS
3890
EASTERN SANDERS CO. S.C.D.
PARADISE
NORTH POWELL S. C. D.
FLATHEAD
13B10
ST. IGNATIUS
RAVALLI
13B7
ARLEE
MISSOULA CO. S. C. D.
POWELL
MONTANA
93
MISSOULA
14B1
10A
SCALE 10 0 10 20 30 40 MILES
USDA-SCS-LINCOLN, NEBR. 1962

5,L-16,398.2

WATER SUPPLY FORECASTS

WATERSHED II

AS OF APRIL 1, 1963

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	NORTH FORK FLATHEAD RIVER					
3555	Columbia Falls (near)	Apr-Sept	1339	69	1678	1942
		Apr-July	1220	69	1540	1769
		Apr-June	1030	69	1356	1491
	MIDDLE FORK FLATHEAD RIVER					
3585	West Glacier (near)	Apr-Sept	1394	74	1702	1882
		Apr-July	1283	74	1582	1747
		Apr-June	1102	74	1402	1487
	SOUTH FORK FLATHEAD RIVER					
3625	Columbia Falls (nr)(17)	Apr-Sept	1949	85	2465	2297
		Apr-July	1847	85	2358	2180
		Apr-June	1622	85	2132	1901
	FLATHEAD RIVER					
3630	Columbia Falls (at)(17)	Apr-Sept	4816	76	6030	6299
		Apr-July	4444	76	5631	5846
		Apr-June	3800	76	5009	4993
3720	Polson (near)(18)	Apr-Sept	5711	76	7073	7463
		Apr-July	5282	76	6614	6939
		Apr-June	4496	76	5880	5896
	SWAN RIVER					
3700	Big Fork (near)	Apr-Sept	562	88	771	641
		Apr-July	496	87	692	568
		Apr-June	402	87	588	460

(17) Corrected for storage in Hungry Horse Reservoir.
(18) Corrected for storage in Hungry Horse Reservoir and Flathead Lake.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

RESERVOIR STORAGE DATA

AS OF MARCH 31, 1963

(1000 Acre Feet)

NO.	RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE
3620	Hungry Horse	3428.0	2842.0	2200.0	2177.0
3710	Flathead Lake	1791.0	758.8	598.3	628.8
3757	Camas (4)	45.2	29.6	29.2	26.5
3800	Mission Valley (8)	100.3	32.8	26.9	38.6

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD)

SNOW SURVEY DATA

AS OF APRIL 1, 1963

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
13B14A	Basin Creek	5000	4/3	11	3.7	10.7	10.5*
14B3	Bassoo Peak	5150	3/25	17	5.9	13.6	-
13B3	Big Creek	6750	3/28	103	43.0	49.2	43.4
14A4	Brush Creek	5000	3/25	21	6.8	10.7	15.2*
13A17	Camp Misery	6400	3/26	94	35.3	38.7	-
13B10	Coyote Hill	4200	3/28	22	7.2	13.0	10.6
13A2	Desert Mountain	5600	3/26	33	11.0	17.0	16.6
13B4	Fatty Creek	5500	3/28	48	16.8	22.8	-
Can. 10	Fernie	3500				9.6	9.3
14A9	Griffin Creek Divide	5150	3/27	19	6.6	14.4	-
14A3	Hell Roaring Divide	5770	3/29	67	24.8	30.0	31.7
13B13A	Holbrook	4530	4/3	13	4.7	11.4	10.1
14A6	Kishenehn	3886	3/31	10	3.4	9.4	10.8
14A5	Logan Creek	4300	3/25	15	4.2	9.4	9.8
13A5	Marias Pass	5250	3/29	31	9.2	18.1	20.3
13A16	Mineral Creek	4000	3/26	35	11.6	15.2	23.9
Can. 10B	Morrissey Ridge	6100	4/1	75	23.8	-	-
Can. 10A	New Fernie	4100				15.4	15.4*
13B7	North Fork Jocko	6330	3/29	96	37.0	49.3	44.4
13A13	Quintonkon	3800	No measurement			15.6	14.8*
13B2	Spotted Bear Mt.	7000	4/3	24	8.0	16.2	15.6*
13A10	Strawberry Lake	6500	4/3	75	28.7	39.2	42.5*
13B1	Trinkus Lake	6500	4/3	76	31.2	42.2	41.5*
13A12	Trout Lake	3600	4/1	19	6.2	15.6	16.4*
14B1	TV Mountain	6800	3/29	52	16.6	20.5	19.0*
13B11	Twin Creeks	3580	4/1	11	3.6	12.0	10.6*
13B5	Upper Holland Lake	7000	4/3	74	25.8	38.0	34.3*
14A7	Weasel Divide	5450	3/28	72	25.2	30.6	33.4

SOIL MOISTURE DATA

AS OF APRIL 1, 1963

(Inches)

SOIL MOISTURE STATION			SOIL PROFILE		CURRENT DATA		PAST RECORD	
NO.	NAME	ELEVATION	DEPTH	FIELD CAPACITY	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE
13A2M	Desert Mountain	5600	54	8.4	3/26	7.8	8.0	7.6
13A5M	Marias Pass	5250	54	6.5	3/27	6.0	5.5	5.4

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD). *ADJUSTED AVERAGE **AVERAGE FOR PERIOD OF RECORD

WATER SUPPLY OUTLOOK

LOWER CLARK FORK RIVER BASIN

MONTANA

AS OF:
APRIL 1, 1963

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

The water supply outlook for the coming irrigation season is only fair in the Lower Clark Fork River drainage.

Streamflow during the spring and summer months is expected to be considerably less than last year and 60 to 70 percent average on tributary streams to the Clark Fork River. On the main stem of the Clark Fork, streamflow is forecast to be about 20 percent below average near the headwaters, but drops to about three-fourths of average at the Montana-Idaho border.

Snow surveys made near the first of April indicate the mountain snow pack is only 66 percent of last year and 69 percent of the 1943-57 average.

Report Prepared By:

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Soil Conservation Service
Box 855, Bozeman, Montana

Data included in this report were obtained in cooperation with other Federal, State and private organizations.

THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY

USDA-SCS-LINCOLN, NEBR. 1962

5,L-16,506.1

N
MONTANA
III
SCALE 10 0 10 20 30 40 MILES
GREEN MOUNTAIN S. C. D.
EASTERN SANDERS COUNTY S. C. D.
NORTH POWELL S. C. D.
MISSOULA S. C. D.
MINERAL CO S. C. D.
BITTERROOT S. C. D.
S A N D E R S
M I N E R A L
M I S S O U L A
I D A H O
NOXON
THOMPSON FALLS
SALTESE
ST. REGIS
SUPERIOR
ALBERTON
PLAINS
PARADISE
RAVALLI
ARLEE
MISSOULA
CLEARWATER
BONNER
BONITA
LOLO
LOLO HOT SPRINGS
CLARK FORK R.
THOMPSON R.
ST. REGIS R.
FLATHEAD R.
CLEARWATER R.
BITTERROOT R.
10A
10
28
93
20
3920
3910
3890
3545
3530
3495
3405
3404
3400
3385
15B11
14B3
15B2
13B10
13B7
14B1
15C1
13C14M
13C8
14C5
14C6
14C4
LEGEND
13 E 2 SNOW SURVEY COURSE
12 D2M SOIL MOISTURE STATION
13B3A AERIAL MARKER AT SNOW COURSE
0125 STREAM GAGING STATION
DRAINAGE
S. C. D. BOUNDARY
WATERSHED BOUNDARY
HIGHWAY
TOWN
COUNTY BOUNDARY
STATE BOUNDARY

WATER SUPPLY FORECASTS

WATERSHED III

AS OF APRIL 1, 1963

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	BLACKFOOT RIVER					
3400	Bonner (near)	Apr-Sept	834	83	1090	1000
		Apr-July	750	83	993	907
		Apr-June	640	83	877	775
	BITTERROOT RIVER					
3528	Missoula (near)(16)	Apr-Sept	912	59	1464	1557
		Apr-July	865	59	1365	1450
		Apr-June	742	60	1219	1244
	CLARK FORK RIVER					
3404	Milltown (above)(14)	Apr-Sept	648	79	769	815
		Apr-July	568	79	677	716
		Apr-June	478	79	590	609
3405	Missoula (above)	Apr-Sept	1482	82	1859	1814
		Apr-July	1318	81	1660	1620
		Apr-June	1118	81	1467	1384
3530	Missoula (below)	Apr-Sept	2394	71	3323	3361
		Apr-July	2183	71	3025	3059
		Apr-June	1860	71	2686	2608
3545	St. Regis (at)	Apr-Sept	3130	69	4416	4549
		Apr-July	2838	69	4013	4140
		Apr-June	2438	69	3566	3550
3890	Plains (near)(18)	Apr-Sept	9098	74	11956	12337
		Apr-July	8322	74	11030	11316
		Apr-June	7077	74	9775	9625
3920	Whitehorse Rapids (at)(19)	Apr-Sept	10136	73	13331	13932
		Apr-July	9320	73	12251	12763
		Apr-June	7876	73	10853	10816

(14) Difference in observed flow, Clark Fork above Missoula & Blackfoot at Bonner.
(16) Difference in observed flow, Clark Fork above and below Missoula.
(18) Corrected for storage in Flathead Lake & Hungry Horse Reservoir.
(19) Corrected for storage in Flathead Lake, Hungry Horse and Noxon Reservoirs.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

RESERVOIR STORAGE DATA

AS OF MARCH 31, 1963

(1000 Acre Feet)

NO.	RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE
3913	Noxon	334.6		107.4	

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD)

SNOW SURVEY DATA

AS OF APRIL 1, 1963

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
15B11	Baree Creek	5500	4/1	94	31.7	51.2	48.7*
14B3	Bassoo Peak	5150	3/25	17	5.9	13.6	-
13B10	Coyote Hill	4200	3/28	22	7.2	13.0	10.6*
15C1	Hoodoo Creek	6200	3/26	85	32.8	50.4	53.2
14C5	Lolo Pass	5230	3/28	56	21.8	39.0	36.7*
15B2	Lookout	5250	4/1	79	24.1	42.8	39.0*
13C8	Lubrecht Forest #6	4040	3/31	4	1.3	6.4	2.5*
13B7	North Fork Jocko	6330	3/29	96	37.0	49.3	44.4
14C6	Powell R. S.	4230	3/28	15	6.4	14.1	14.0*
14C4	Savage Pass	6600	3/28	59	21.8	28.4	30.3*
13C1	Stuart Mountain	7400	3/30	82	29.0	32.5	32.8
14B1	TV Mountain	6800	3/29	52	16.6	20.5	19.0*

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD). *ADJUSTED AVERAGE

WATER SUPPLY OUTLOOK

UPPER CLARK FORK RIVER BASIN

MONTANA

AS OF:

APRIL 1, 1963

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

The water supply outlook for the Upper Clark Fork River basin is fair to good for the coming irrigation season. Deficient mountain precipitation during March reduced the streamflow forecasts in this area 5 to 10 percent from those released a month ago. If precipitation continues to be below average, some late season shortage of irrigation water can be expected.

Streamflow during the coming spring and summer months is forecast to be 15 to 25 percent below the 1943-57 average.

Snow surveys made near the first of April indicate the mountain snow pack is 85 percent of last year and 87 percent of the 1943-57 average. The April first storm improved the snow pack but was not sufficient to bring it up to average.

Reservoir storage in Georgetown Lake is slightly above last year as well as slightly above average.

Report Prepared By:

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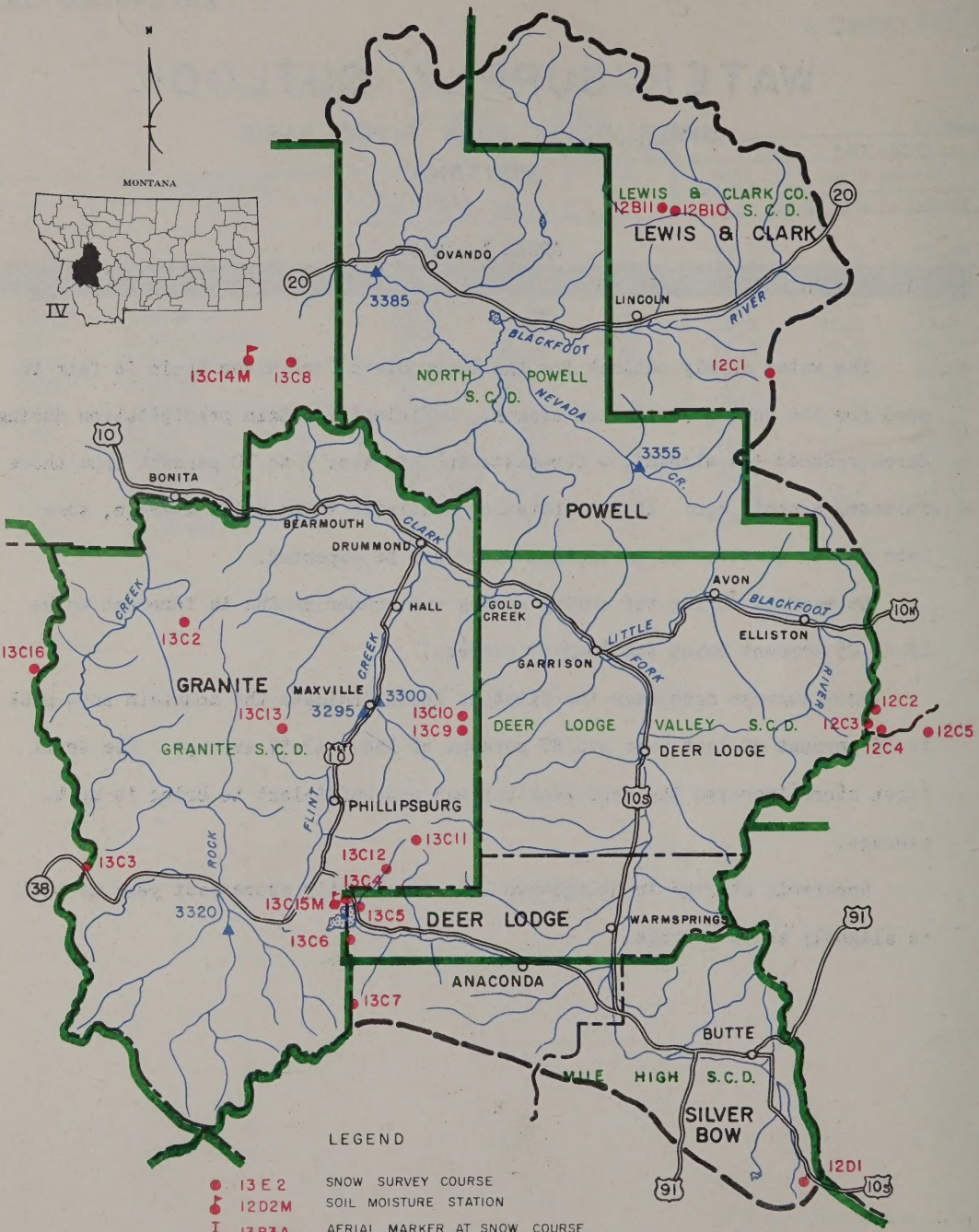
Data included in this report were obtained in cooperation with other Federal, State and private organizations.

THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY

5,L-16,396.1



USDA-SCS LINCOLN NEBR 1962

5,L-16,396.2

WATER SUPPLY FORECASTS

WATERSHED IV

AS OF APRIL 1, 1963

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	FLINT CREEK					
3295	Maxville (at)	Apr-Sept	37.5	81	39.1	46.4
		Apr-July	28.8	81	27.8	35.4
	BOULDER CREEK					
3300	Maxville (at)	Apr-Sept	21.6	77	24.8	28.2
		Apr-July	19.9	77	22.7	25.8
	MIDDLE FORK ROCK CREEK					
3320	Philipsburg (near)	Apr-Sept	67.9	85		80.2
		Apr-July	60.7	84		72.1
	BLACKFOOT RIVER					
3400	Bonner (near)	Apr-Sept	834	83	1090	1000
		Apr-July	750	83	993	907
		Apr-June	640	83	877	775
	CLARK FORK RIVER					
3404	Milltown (above)(14)	Apr-Sept	648	79	769	815
		Apr-July	568	79	677	716
		Apr-June	478	79	590	609

(14) Difference in observed flow, Clark Fork above Missoula & Blackfoot at Bonner.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

RESERVOIR STORAGE DATA

AS OF MARCH 31, 1963

(1000 Acre Feet)

NO.	RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE
3250	Georgetown Lake	31.0	23.3	21.0	21.6

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD)

SNOW SURVEY DATA

AS OF APRIL 1, 1963

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
13C16	Ambrose	6475	3/25	28	13.2	15.2	-
13C13	Black Pine	7100	3/26	39	13.6	13.6	-
12C5	Chessman Reservoir	6200	3/28	5	1.4	5.0	5.1
12B10	Copper Creek	5700	3/20	27	8.1	16.8	-
12B11	Cotter Mine	6250	3/20	31	8.8	18.4	-
13C9	El Dorado Mine	7800	3/25	59	20.6	22.6	22.7*
13C11	Fred Burr Pass	8000	3/28	65	24.2	24.7	27.0*
13C10	Gold Creek Lake	7200	3/25	42	13.9	16.6	17.2*
13C4	Intergaard	6450	4/1	44	8.7	10.4	7.9*
13C8	Lubrecht Forest #6	4040	3/31	4	1.3	6.4	2.5*
12D1	Pipestone Pass	7200	3/29	21	6.0	6.9	6.0
13C12	Red Lion	7100	3/28	51	16.2	16.8	18.0*
13C3	Skalkaho Summit	7259	3/26	60	21.2	26.6	27.1
13C2	Slide Rock Mountain	7100	3/27	43	14.2	16.7	15.9
13C5	Southern Cross	6500	4/1	34	7.1	9.5	5.9*
12C1	Stemple Pass	6900	3/28	27	7.2	10.2	11.0
13C7	Storm Lake	7780	3/28	46	14.0	15.7	15.6
13C6	Stuart Mill	6500	4/1	32	7.3	9.0	6.9*
12C2	Tenmile, Lower	6250	4/2	27	6.1	8.0	7.1
12C3	Tenmile, Middle	6800	4/1	44	10.9	11.0	11.3
12C4	Tenmile, Upper	8000	4/1	52	14.4	14.0	14.4

SOIL MOISTURE DATA

AS OF APRIL 1, 1963

(Inches)

SOIL MOISTURE STATION			SOIL PROFILE		CURRENT DATA		PAST RECORD	
NO.	NAME	ELEVATION	DEPTH	FIELD CAPACITY	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE
13C15M	Georgetown Lake	6450	48	8.3	3/28	3.0	-	-

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD). *ADJUSTED AVERAGE **AVERAGE FOR PERIOD OF RECORD

WATER SUPPLY OUTLOOK

BITTERROOT RIVER BASIN

MONTANA

AS OF:

APRIL 1, 1963

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

The water supply outlook for the coming irrigation season in the Bitterroot River drainage is fair to poor. Deficient mountain precipitation during March has lowered forecasts below those of 1961. If the present trend of below average precipitation continues, spring and summer streamflow in the Bitterroot River will be the lowest since 1944.

Farmers and ranchers who depend on natural streamflow for irrigation should again consider planting early maturing crops. Late maturing crops should be avoided unless your water supply is adequate. The water supply may be most critical in the later part of the irrigation season.

Snow surveys made near the first of April indicate the mountain snow pack is only 65 percent of last year and 61 percent of the 1943-57 average.

Storage in Como and Painted Rocks Reservoirs is well above average and will help to offset the short water supply.

Report Prepared By:

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Soil Conservation Service
Box 855, Bozeman, Montana

Data included in this report were obtained in cooperation with other Federal, State and private organizations.

THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY

USDA SCS-LINCOLN, NEBR. 1962

5,L-16,518.1

USDA-SCS-LINCOLN, NEBR. 1962

5,L-16,518.2

WATER SUPPLY FORECASTS

WATERSHED V

AS OF APRIL 1, 1963

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	WEST FORK BITTERROOT RIVER					
3425	Conner (near)(15)	Apr-Sept	118	67	156	176
		Apr-July	108	66	145	164
	BITTERROOT RIVER					
3440	Darby (near)	Apr-Sept	386	66	548	587
		Apr-July	360	66	510	547
		Apr-June	315	66	459	477
3528	Missoula (near)(16)	Apr-Sept	912	59	1464	1557
		Apr-July	865	59	1365	1450
		Apr-June	742	60	1219	1244
	BLODGETT CREEK					
3475	Corvallis (near)	Apr-Sept	40.9	87		46.7
		Apr-July	39.1	88		44.4

(15) Corrected for storage in Painted Rocks Reservoir.
(16) Difference in observed flow, Clark Fork above and below Missoula.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

RESERVOIR STORAGE DATA

AS OF MARCH 31, 1963

(1000 Acre Feet)

NO.	RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE
3420	Painted Rocks	31.7	27.3	-	11.6
3445	Como	34.9	24.2	15.6	12.4

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD)

SNOW SURVEY DATA

AS OF APRIL 1, 1963

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
13C16	Ambrose	6475	3/25	38	13.2	15.2	-
13D1	East Fork R. S.	5400	3/25	16	5.8	6.6	7.1
13D2	Gibbons Pass	7100	3/28	52	16.6	22.5	25.4
14D3	Kit Carson	4700	3/28	11	4.3	7.8	9.0
14C5	Lolo Pass	5230	3/28	56	21.8	39.0	36.7*
14C7	Lost Horse	5940	3/27	58	20.3	33.4	-
13D16	Moose Creek	6200	3/29	29	8.4	14.6	18.3
14D2	Nez Perce Camp	5580	3/28	29	8.9	15.8	15.5
14D1	Nez Perce Pass	6575	3/28	31	9.7	17.3	19.7
14C6	Powell R. S.	4230	3/28	15	6.4	14.1	14.0*
14C4	Savage Pass	6600	3/28	59	21.8	28.4	30.3*
13C3	Skalkaho Summit	7259	3/26	60	21.2	26.6	27.1
14C8	Twin Lakes	6510	3/27	83	31.8	44.6	-

SOIL MOISTURE DATA

AS OF APRIL 1, 1963

(Inches)

SOIL MOISTURE STATION			SOIL PROFILE		CURRENT DATA		PAST RECORD	
NO.	NAME	ELEVATION	DEPTH	FIELD CAPACITY	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE
13D18M	Gibbons Pass	7100	48	7.1	3/25	5.8	-	-

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD). *ADJUSTED AVERAGE **AVERAGE FOR PERIOD OF RECORD

WATER SUPPLY OUTLOOK

MARIAS, TETON, & SUN RIVER BASINS

MONTANA

AS OF:
APRIL 1, 1963

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

The water supply outlook for the coming irrigation season varies from fair to poor in the Sun, Teton and Marias River drainages.

Streamflow for the spring and summer months is expected to be 30 percent less than last year on the Sun River, and 13 percent less than last year on the Marias River. If below average precipitation and above average temperatures continue, streamflow in this area can be expected to be the lowest since 1946.

Farmers and ranchers with the latest water rights, who depend on natural streamflow for irrigation, should seriously consider planting early maturing crops.

Snow surveys made near the first of April indicate the mountain snow pack is 57 percent of last year and only 48 percent of the 1943-57 average. Low elevation snow has melted. Water contents at snow courses in this area are the lowest or second lowest in the last 20 years.

Storage in irrigation reservoirs is below average except in Willow Creek Reservoir.

Report Prepared By:

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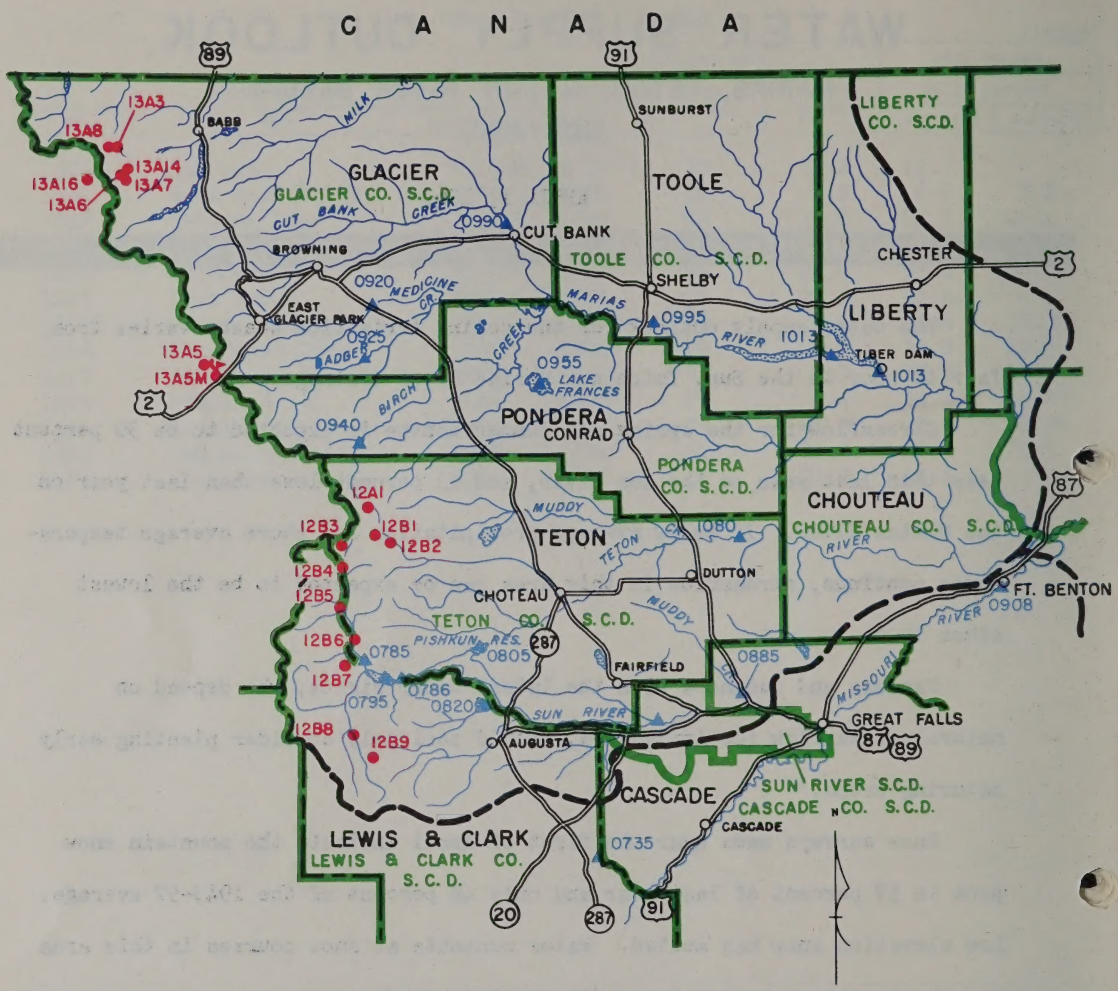
Box 855, Bozeman, Montana

Data included in this report were obtained in cooperation with other Federal, State and private organizations.

THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY

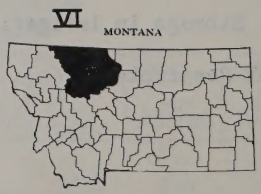
USDA-SCS-LINCOLN NEBR. 1961

5,L-16,502.1



LEGEND

13 E 2	SNOW SURVEY COURSE
12D2M	SOIL MOISTURE STATION
13B3A	AERIAL MARKER AT SNOW COURSE
0125	STREAM GAGING STATION
	DRAINAGE
	S. C. D. BOUNDARY
	WATERSHED BOUNDARY
	HIGHWAY
	TOWN
	COUNTY BOUNDARY
	STATE BOUNDARY



SCALE 10 0 10 20 30 40 MILES

USDA-SCS-LINCOLN, NEBR. 1962

WATER SUPPLY FORECASTS

WATERSHED VI

AS OF APRIL 1, 1963

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	NORTH FORK SUN RIVER					
0785	Augusta (near)	Apr-Sept	171	72		239
		Apr-July	158	71		222
	SUN RIVER					
0786	Gibson Dam (at)(10)	Apr-Sept	431	73	616	588
		Apr-July	394	73	569	538
	MARIAS RIVER					
0995	Shelby (near)	Apr-Sept	365	55	419	659
		Apr-July	333	55	391	605
	MISSOURI RIVER					
0908	Fort Benton (at)(5)	Apr-Sept	2451	68		3599
		Apr-July	2089	68		3076

(5) Corrected for storage in Canyon Ferry Reservoir.
(10) Corrected for storage in Gibson Reservoir and diversions.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

RESERVOIR STORAGE DATA

AS OF MARCH 31, 1963

(1000 Acre Feet)

NO.	RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE
0795	Gibson	105.0	46.2	41.0	66.4
0805	Pishkun	32.0	18.0	16.7	18.6
0820	Willow Creek	32.3	27.2	11.0	20.2
0940	Swift	30.0	14.1	18.3	24.7
0955	Lake Francis	112.0	66.6	78.2	96.0
1013	Tiber	1313.0	660.7	623.1	653.8

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD)

SNOW SURVEY DATA

AS OF APRIL 1, 1963

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
12B6	Cabin Creek	5400	4/3	0	0	7.0	7.1*
12A1	Freight Creek	6000	3/21	22	9.9	14.4	17.4*
12B5	Gates Park	5300	4/3	16	4.8	10.6	11.0*
12B7	Goat Mountain	7000	3/31	20	6.0	12.1	12.4
13A5	Marias Pass	5250	3/29	31	9.2	18.1	20.3
13A16	Mineral Creek	4000	3/26	35	11.6	15.2	23.9*
12B2	Waldron Creek	5600	3/21	7	2.8	6.3	7.7*
12B1	West Fork	6000	3/21	28	8.9	-	17.7*
12B4	Wrong Creek	5700	4/3	28	8.8	14.6	16.2*
12B3	Wrong Ridge	6800	4/3	50	13.7	18.4	23.1*

SOIL MOISTURE DATA

AS OF APRIL 1, 1963

(Inches)

SOIL MOISTURE STATION			SOIL PROFILE		CURRENT DATA		PAST RECORD	
NO.	NAME	ELEVATION	DEPTH	FIELD CAPACITY	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE
13A5M	Marias Pass	5250	54	6.5	3/27	6.0	5.5	5.4

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD). *ADJUSTED AVERAGE **AVERAGE FOR PERIOD OF RECORD

WATER SUPPLY OUTLOOK

MISSOURI RIVER (MAIN STEM) BASIN

MONTANA

AS OF:

APRIL 1, 1963

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

Water supply outlook for the coming irrigation season is fair to good on streams tributary to the Missouri River. Streams tributary to the Missouri River should produce 70 to 80 percent average flows.

Streamflow in the Missouri River is forecast to be 30 to 35 percent less than the 1943-57 average.

Snow surveys made near the first of April show the mountain snow pack to be 77 percent of last year and 78 percent average.

Storage in Smith River reservoir is above average and near capacity, which will help supplement late season water supply.

Report Prepared By:

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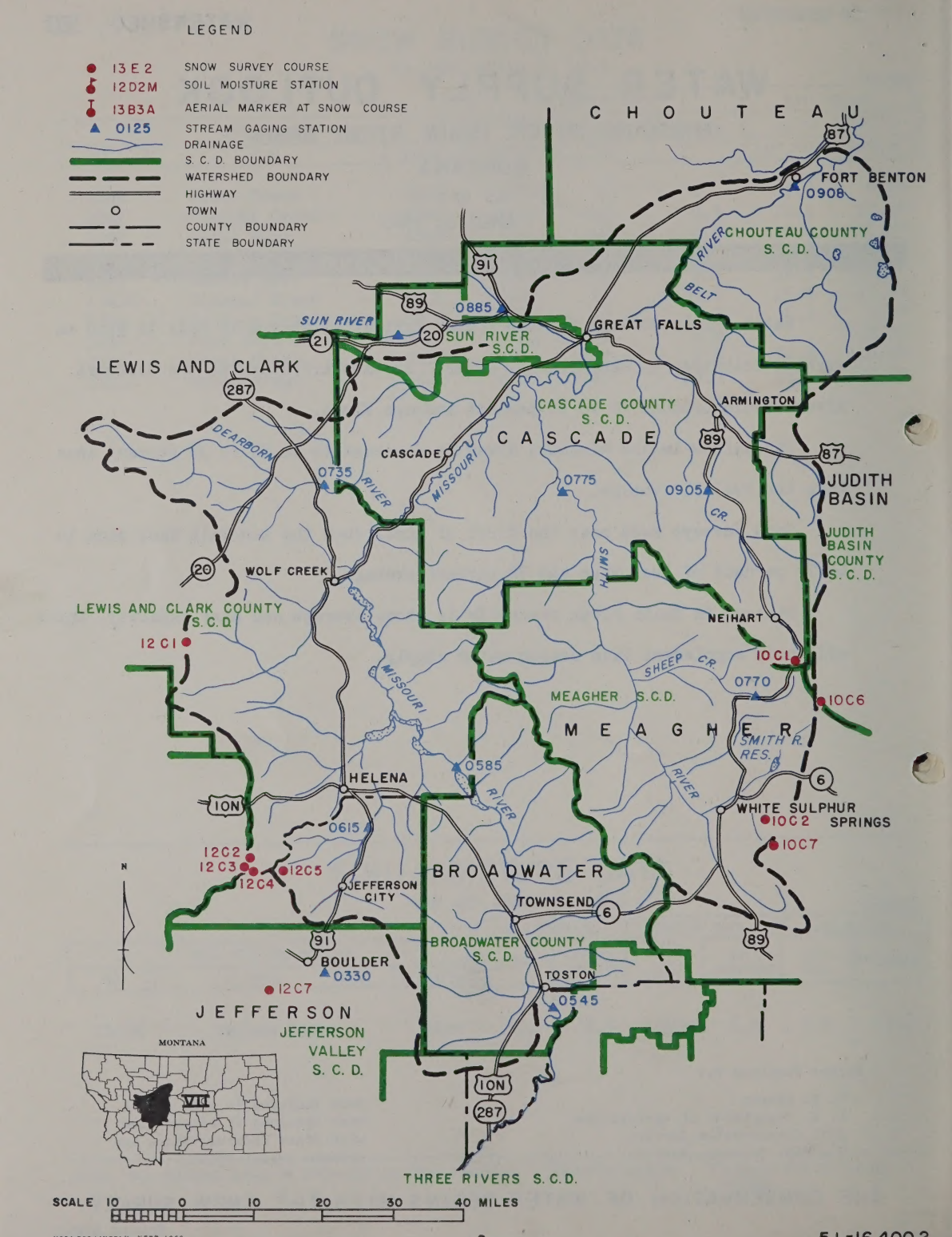
Data included in this report were obtained in cooperation with other Federal, State and private organizations.

THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY

5,L-16,400.1


LEGEND
13 E 2 SNOW SURVEY COURSE
12D2M SOIL MOISTURE STATION
13B3A AERIAL MARKER AT SNOW COURSE
0125 STREAM GAGING STATION
DRAINAGE
S. C. D. BOUNDARY
WATERSHED BOUNDARY
HIGHWAY
TOWN
COUNTY BOUNDARY
STATE BOUNDARY
CHOUTEAU
FORT BENTON
0908
CHOUTEAU COUNTY S. C. D.
BELT RIVER
GREAT FALLS
0885
SUN RIVER
SUN RIVER S.C.D.
LEWIS AND CLARK
DEARBORN
0735
RIVER
MISSOURI
CASCADE
CASCADE COUNTY S. C. D.
CASCADE
0775
ARMINGTON
0905
CR.
JUDITH BASIN
JUDITH BASIN COUNTY S. C. D.
SMITH
WOLF CREEK
LEWIS AND CLARK COUNTY S.C.D.
12 C1
NEIHART
10 C1
SHEEP CR.
0770
10C6
MEAGHER S.C.D.
MEAGHER
SMITH R. RES.
HELENA
0585
RIVER
WHITE SULPHUR SPRINGS
10C2
10C7
0615
12C2
12C3
12C4
12C5
JEFFERSON CITY
BROADWATER
TOWNSEND
BROADWATER COUNTY S. C. D.
BOULDER
0330
12C7
TOSTON
0545
JEFFERSON
JEFFERSON VALLEY S. C. D.
MONTANA
VII
THREE RIVERS S. C. D.
N
SCALE 10 0 10 20 30 40 MILES

WATER SUPPLY FORECASTS

WATERSHED VII

AS OF APRIL 1, 1963

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	MISSOURI RIVER					
0545	Toston (at)(3)	Apr-Sept	1679	71	2347	2342
		Apr-July	1436	71	2004	2030
0908	Fort Benton (at)(5)	Apr-Sept	2451	68		3599
		Apr-July	2089	68		3076
	PRICKLY PEAR CREEK					
0615	Clancy (near)	Apr-Sept	18.4	77		23.9
		Apr-July	16.1	77		20.8
	SUN RIVER					
0786	Gibson Dam (at)(10)	Apr-Sept	431	73	616	588
		Apr-July	394	73	569	538

(3) Corrected for storage in Hebgen and Ennis Lakes.
(5) Corrected for storage in Canyon Ferry Reservoir.
(10) Corrected for storage in Gibson Reservoir and diversions.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

RESERVOIR STORAGE DATA

AS OF MARCH 31, 1963

(1000 Acre Feet)

NO.	RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE
0585	Canyon Ferry	2043.0	1962.0	1217.0	1585.0
0645	Lake Helena	10.4	5.2	9.2	5.5
0650	Hauser Lk. & Lk. Helena	61.9	46.0	58.4	44.3
0660	Holter Lake	81.9	57.4	81.0	54.3
0750	Smith River	10.7	9.0	2.6	6.5

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD)

SNOW SURVEY DATA

AS OF APRIL 1, 1963

(inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
12C7	Berry Meadow	7300	4/1	34	8.4	9.0	-
11C1	Boulder Mountain	7950	3/25	44	13.8	-	-
12C5	Chessman Reservoir	6200	3/28	5	1.4	5.0	5.1
10C7	Elk Peak	8000	3/27	43	14.4	-	-
10C2	Grasshopper	7000	3/27	13	4.0	7.2	5.6
10C1	Kings Hill	7500	3/29	32	8.3	13.5	13.8
10C6	Spur Park	8000	3/28	54	17.4	-	-
12C1	Stemple Pass	6900	3/28	27	7.2	10.2	11.0
12C2	Tenmile, Lower	6250	4/2	27	6.1	8.0	7.1
12C3	Tenmile, Middle	6800	4/1	44	10.9	11.0	11.3
12C4	Tenmile, Upper	8000	4/1	52	14.4	14.0	14.4

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD). *ADJUSTED AVERAGE

WATER SUPPLY OUTLOOK

JEFFERSON RIVER AND TRIBUTARY BASINS

MONTANA

AS OF:

APRIL 1, 1963

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

The water supply outlook remains poor in the Red Rock, Ruby and Beaverhead River drainages, and fair to good in the Big Hole and Boulder River drainages for the coming irrigation season. Below average mountain precipitation during March has decreased forecasts over those issued last month.

Streamflow in the Red Rock and Beaverhead Rivers is expected to be less than in 1961 and near the lowest flow on record. Conditions are better on the Big Hole, where 80 percent average streamflow is expected.

Farmers and ranchers who depend on natural streamflow for irrigation should consider planting only early maturing crops unless they have a good water right.

Snow surveys made near the first of April indicate the mountain snow pack in the Beaverhead drainage is 57 percent of last year and 58 percent average. In the Big Hole the snow pack is 78 percent of last year and 72 percent average. Many snow courses in the headwater area of the Red Rock River reported the lowest or second lowest April 1 water content on record. Many of these courses have been measured since 1936.

Lima Reservoir has a storage of 78 percent average and will not fill this year. No report is available for Ruby Reservoir.

Report Prepared By:

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Data included in this report were obtained in cooperation with other Federal, State and private organizations.

THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY

USDA-SCS-LINCOLN, NEBR 1962

5,L-16,394.1

5,L-16,394.2

USDA-SCS-LINCOLN NEBR. 1962

WATER SUPPLY FORECASTS

WATERSHED VIII

AS OF APRIL 1, 1963

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	RED ROCK RIVER					
0110	Kennedy Ranch (at)	Apr-Sept	31.7	41	106	76.6
		Apr-July	29.2	41	97	70.8
0125	Monida (near)(1)	Apr-Sept	33.4	39	110	86.4
		Apr-July	31.7	39	101	82.2
	BIG HOLE RIVER					
0255	Melrose (near)	Apr-Sept	617	80	671	770
		Apr-July	567	80	619	714
	BOULDER RIVER					
0330	Boulder (near)	Apr-Sept	70.4	88	70.2	79.9
		Apr-July	67.5	88	66.5	76.5
	JEFFERSON RIVER					
0345	Sappington (at)	Apr-Sept	776	72	968	1074
		Apr-July	686	72	843	958

(1) Corrected for storage in Lima Reservoir.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

RESERVOIR STORAGE DATA

AS OF MARCH 31, 1963

(1000 Acre Feet)

NO.	RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE
0120	Lima	84.0	26.3	17.8	33.9
0205	Ruby	38.8	-	28.7	26.5

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD)

SNOW SURVEY DATA

AS OF APRIL 1, 1963

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
13D20	Abundance Lake	8800	3/25	49	14.2	-	-
12C7	Berry Meadow	7300	4/1	34	8.4	9.0	-
13D10	Bloody Dick	7600	3/28	30	8.2	11.3	12.1*
11D7	Call Road	8050	3/25	35	9.7	13.1	-
12E3	Camp Creek	6800	3/26	8	2.3	12.1	10.4
12D4	Carter Creek	7400	3/27	15	3.4	-	-
13C5	Chessman Reservoir	6200	3/28	5	1.4	5.0	5.1
11D8	Clover Meadow	8600	3/25	46	13.0	-	-
11D6	Crockett Lake	8400	3/25	34	10.8	13.5	-
13D19	Darkhorse Lake	8600	3/25	61	20.5	-	-
12E7	Divide	7900	3/25	25	6.8	-	-
13D15	Elk Horn Springs	7800	3/27	31	8.4	11.0	10.7*
13D21	Foolhen	8500	3/25	46	14.0	-	-
13D2	Gibbons Pass	7100	3/28	52	16.6	22.5	25.4
13D9	Goldstone	8100	3/28	44	12.8	15.2	15.8*
13D8	Jahnke Creek	7340	3/28	21	5.1	8.4	11.7*
11E12	Kilgore	6200	3/27	11	4.2	14.8	10.3
11E4	Lakeview Canyon	6930	3/28	24	6.4	14.3	11.3*
11E3	Lakeview Ridge	7400	3/28	21	5.6	12.2	10.1*
13E1	Lemhi Pass	7480	3/27	24	5.8	7.4	9.6*
13D16	Moose Creek	6200	3/29	29	8.4	14.6	18.3
12E6	Notch	8500	3/25	42	11.3	-	-
12C6	Picnic Grounds	6500	4/1	20	4.6	6.0	5.3*
12D1	Pipestone Pass	7200	3/29	21	6.0	6.9	6.0
13C7	Storm Lake	7780	3/28	46	14.0	15.7	15.6
12C2	Tenmile, Lower	6250	4/2	27	6.1	8.0	7.1
12C3	Tenmile, Middle	6800	4/1	44	10.9	11.0	11.3
12C4	Tenmile, Upper	8000	4/1	52	14.4	14.0	14.4
13E2	Trail Creek	7090	3/27	21	5.7	7.7	9.1*
12E1	White Pine Ridge	8850	3/25	18	4.0	5.6	6.2*

SOIL MOISTURE DATA

AS OF APRIL 1, 1963

(Inches)

SOIL MOISTURE STATION			SOIL PROFILE		CURRENT DATA		PAST RECORD	
NO.	NAME	ELEVATION	DEPTH	FIELD CAPACITY	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE
13D18M	Gibbons Pass	7100	48	7.1	3/25	5.8	-	-
11E13M	Lakeview	6700	48	15.3			-	-

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD). *ADJUSTED AVERAGE **AVERAGE FOR PERIOD OF RECORD

WATER SUPPLY OUTLOOK

MADISON, & GALLATIN RIVER BASINS

MONTANA

AS OF:

APRIL 1, 1963

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

The water supply outlook is fair to poor on streams tributary to the Madison, and good in the Gallatin River drainage for the coming irrigation season.

Streamflow during the spring and summer months is expected to be slightly below average in the West Gallatin River and near average in Hyalite Creek. Streamflow in the Main Stem of the Madison is forecast to be 25 to 35 percent below average; however, tributary streams will produce considerably less water percentagewise.

Madison area farmers and ranchers who depend on natural streamflow for irrigation and those who have less adequate water rights should seriously consider planting only early maturing crops.

Snow surveys made near the first of April indicate the mountain snow pack in the Madison drainage is only 50 percent of last year and 54 percent average. Several snow courses in this drainage reported the lowest or second lowest April 1 water content on record. Many of the measurements were started in 1936. In the Gallatin drainage the snow pack is 79 percent of last year and 84 percent average.

Report Prepared By:

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Soil Conservation Service
Box 855, Bozeman, Montana

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THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY

TOWNSEND
MEAGHER S. C. D.
MEAGHER
BROADWATER CO. S. C. D.
RINGLING
TOSTON
BROADWATER
0545
MONTANA
IX
JEFFERSON
JEFFERSON
0525
GALLATIN
PARK S. C. D.
10D10
10D11M
PARK
THREE FORKS
MANHATTAN
SAPPINGTON
0345
THREE RIVERS S. C. D.
BELGRADE
0480
BOZEMAN
11D2M
11D4M
NORRIS
11D3
0410
0405
ENNIS LAKE
0500
10D1
0495
0435
10D3
GALLATIN VALLEY S. C. D.
10D4
KARSTS KAMP
ENNIS
11D5
VIRGINIA CITY
MADISON
MADISON S. C. D.
CAMERON
MADISON
11D7
11D6
RUBY VALLEY S. C. D.
11D8
10D5
WYOMING
11E5
11E6
0385
0380
HEBGEN LAKE
11E7
WEST YELLOWSTONE
0375
10E2
10E3
BEAVERHEAD
BEAVERHEAD S. C. D.
11E8
11E9
10E7
LEGEND
13 E 2 SNOW SURVEY COURSE
12D2M SOIL MOISTURE STATION
13B3A AERIAL MARKER AT SNOW COURSE
0125 STREAM GAGING STATION
DRAINAGE
S. C. D. BOUNDARY
WATERSHED BOUNDARY
HIGHWAY
TOWN
COUNTY BOUNDARY
STATE BOUNDARY
SCALE 10 0 10 20 MILES

WATER SUPPLY FORECASTS

WATERSHED IX

AS OF APRIL 1, 1963

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	MADISON RIVER					
0375	West Yellowstone (near)	Apr-Sept	164	76	228	216
		Apr-July	125	76	176	165
0385	Grayling (near)(2)	Apr-Sept	302	68	484	448
		Apr-July	243	68	374	357
0410	McAllister (near)(3)	Apr-Sept	507	67	831	756
		Apr-July	410	67	679	613
	GALLATIN RIVER					
0435	Gateway (near)	Apr-Sept	422	92	577	459
		Apr-July	362	92	494	395
	HYALITE CREEK					
0500	Ranger Station (at)(4)	Apr-Sept	37.0	102		36.1
		Apr-July	31.8	102		31.0
	GALLATIN RIVER					
0525	Logan (at)	Apr-Sept	425	86	619	492
		Apr-July	364	86	527	422
	MISSOURI RIVER					
0545	Toston (at)(3)	Apr-Sept	1679	71	2347	2342
		Apr-July	1436	71	2004	2030

(2) Corrected for storage in Hebgen Lake.
(3) Corrected for storage in Hebgen and Ennis Lakes.
(4) Corrected for storage in Middle Creek Reservoir.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

RESERVOIR STORAGE DATA

AS OF MARCH 31, 1963

(1000 Acre Feet)

NO.	RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE
0380	Hebgen Lake	384.8	272.4	110.8	208.3
0405	Ennis Lake	41.0	38.5	39.1	35.3
0500	Middle Creek	8.0	5.1	2.7	4.1

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD)

SNOW SURVEY DATA

AS OF APRIL 1, 1963

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
11D9	Bear Basin	8150	4/1	54	19.2	-	-
11E9	Big Springs	6500	3/29	32	10.4	25.6	23.6
11D7	Call Road	8050	3/25	35	9.7	13.1	-
10E3	Canyon	7750	3/31	41	12.3	19.4	16.0
11D8	Clover Meadow	8600	3/25	46	13.0	-	-
10D5	Crevice Mountain	8400	4/1	30	8.2	12.1	10.5
11D6	Crockett Lake	8400	3/25	34	10.8	13.5	-
10D4	Devil's Slide	8100	3/30	64	22.4	25.4	21.2
12E7	Divide	7900	3/25	25	6.8	-	-
11E5	Hebgen Dam	6550	3/27	24	7.3	11.2	12.6
10D3	Hood Meadow	6600	3/30	29	9.2	11.4	9.8
11E10	Island Park	6315	3/29	30	8.8	20.3	17.8
11D5	Jack Creek	6800	3/26	15	5.2	7.2	-
11D10	Little Park	7400	4/1	40	12.8	-	-
10D1	New World	6700	3/21	35	11.0	9.6	10.9
10E2	Norris Basin	7500	3/28	34	8.0	12.4	10.3*
11D3	North Meadow	7500	3/26	24	6.6	10.6	-
10D10	Sacajawea	6550	3/29	41	13.8	13.2	-
10E7	Thumb Divide	7900	3/27	44	12.9	29.0	25.4*
11E6	Twenty-One Mile	7150	3/27	32	9.0	17.8	19.2
11E8	Valley View	6500	3/29	35	9.0	19.4	16.4
11E7	West Yellowstone	6700	3/27	20	6.3	11.0	12.7

SOIL MOISTURE DATA

AS OF APRIL 1, 1963

(Inches)

SOIL MOISTURE STATION			SOIL PROFILE		CURRENT DATA		PAST RECORD	
NO.	NAME	ELEVATION	DEPTH	FIELD CAPACITY	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE
10D11M	Battle Ridge	6020	48	15.4	3/29	14.3	14.8	-
11D2M	College Site	4856	54	14.5	3/29	14.1	11.5	10.6
10D4M	Red Bluff	4800	40	4.7	3/29	2.8	2.5	-

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD). *ADJUSTED AVERAGE **AVERAGE FOR PERIOD OF RECORD

WATER SUPPLY OUTLOOK

JUDITH, & MUSSELSHELL RIVER BASINS

MONTANA

AS OF:

APRIL 1, 1963

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

Water supply outlook for the coming irrigation season is good in the Judith and Musselshell River drainages.

Streamflow is expected to be near average during the spring and summer months, providing precipitation is near average.

Snow surveys made near the first of April indicate the snow pack is 89 percent of last year and 94 percent of the 1943-57 average. Again this month, Crystal Lake snow course, south of Lewistown, had the highest April 1 water content since it was established in 1941.

Irrigation reservoir storage is near or above average in all reservoirs in the Musselshell and Judith River drainages.

Report Prepared By:

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Soil Conservation Service
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Data included in this report were obtained in cooperation with other Federal, State and private organizations.

THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY

USDA-SCS-LINCOLN, NEBR. 1962

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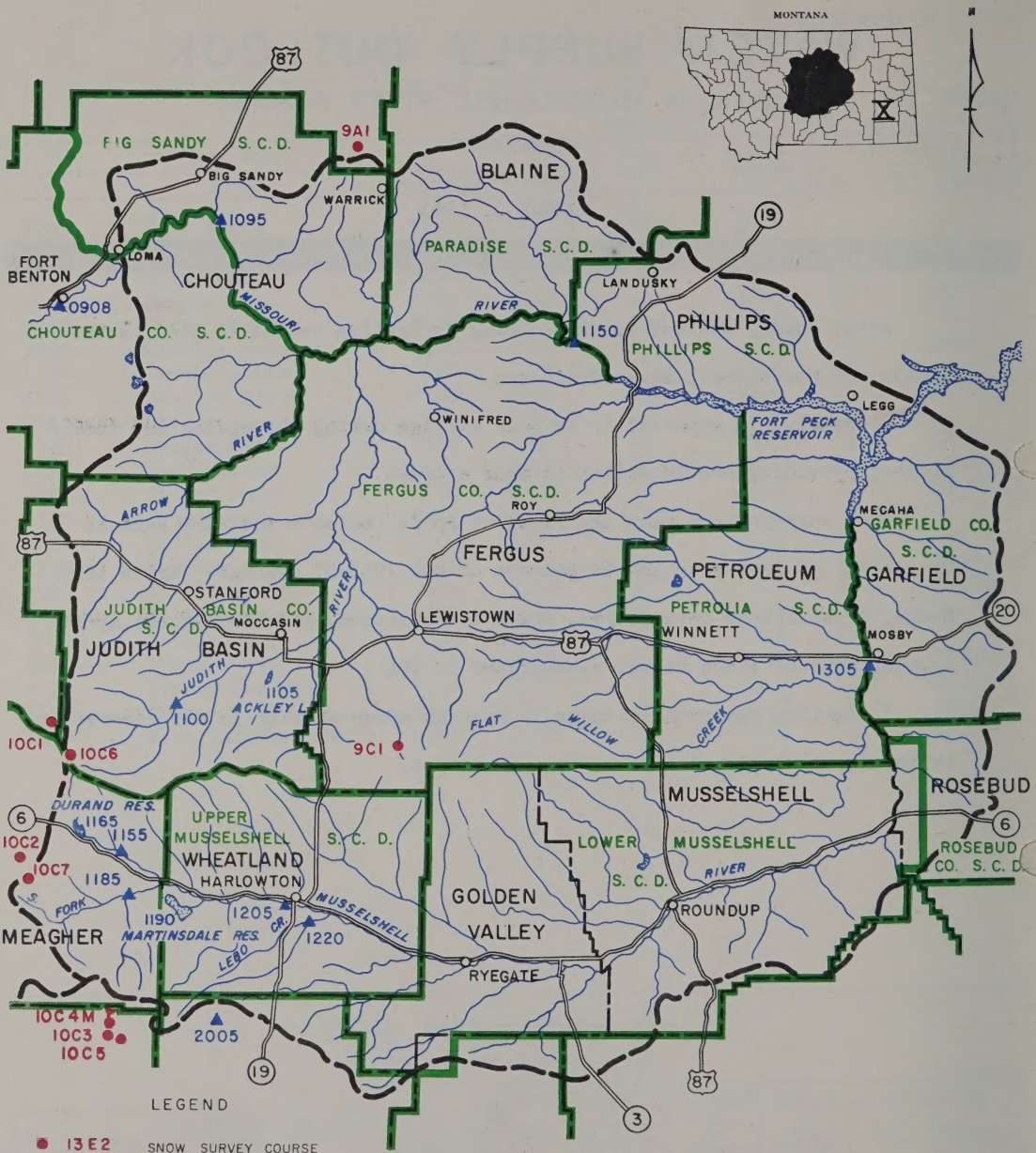
MONTANA
BIG SANDY S. C. D.
BIG SANDY
WARRICK
9A1
BLAINE
1095
LOMA
FORT BENTON
0908
CHOUTEAU
CHOUTEAU CO. S. C. D.
MISSOURI
RIVER
PARADISE S. C. D.
LANDUSKY
1150
PHILLIPS
PHILLIPS S. C. D.
LEGG
FORT PECK RESERVOIR
WINIFRED
FERGUS CO. S. C. D.
ROY
FERGUS
ARROW
MECAHA
GARFIELD CO. S. C. D.
GARFIELD
PETROLEUM
PETROLIA S. C. D.
WINNETT
MOSBY
1305
STANFORD
JUDITH BASIN CO. S. C. D.
MOCCASIN
JUDITH BASIN
LEWISTOWN
1105
ACKLEY L.
1100
FLAT WILLOW CREEK
10C1
10C6
9C1
DURAND RES.
1165
1155
UPPER MUSSELSHELL S. C. D.
WHEATLAND
HARLOWTON
10C2
10C7
1185
1190
1205
1220
MARTINSDALE RES.
LEBO CR.
MUSSELSHELL
MEAGHER
GOLDEN VALLEY
RYEGATE
MUSSELSHELL
LOWER MUSSELSHELL S. C. D.
ROUNDUP
ROSEBUD
ROSEBUD CO. S. C. D.
10C4M
10C3
10C5
2005
LEGEND
13E2 SNOW SURVEY COURSE
12D2M SOIL MOISTURE STATION
13B3A AERIAL MARKER AT SNOW COURSE
0125 STREAM GAGING STATION
DRAINAGE
S. C. D. BOUNDARY
WATERSHED BOUNDARY
HIGHWAY
TOWN
COUNTY BOUNDARY
STATE BOUNDARY
SCALE 10 0 10 20 30 40 MILES

WATER SUPPLY FORECASTS

WATERSHED X

AS OF APRIL 1, 1963

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	SOUTH FORK MUSSELSHELL R.					
1185	Martinsdale (above)	Apr-Sept	52.5	98	49.8	53.6
		Apr-July	50.1	98	46.0	51.4
	MISSOURI RIVER					
1150	Zortman (near)(6)	Apr-Sept	3148	65		4806
		Apr-July	2672	65		4143

(6) Corrected for storage in Canyon Ferry and Tiber Reservoirs.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

RESERVOIR STORAGE DATA

AS OF MARCH 31, 1963

(1000 Acre Feet)

NO.	RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE
1105	Ackley Lake	5.8	3.4	1.9	4.0
1165	Durand	7.0	7.0	1.9	5.3
1190	Martinsdale	23.1	9.4	2.1	10.2
1225	Deadman's Basin	72.2	57.4	13.3	46.2

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD)

SNOW SURVEY DATA

AS OF APRIL 1, 1963

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
10C5	Bald Ridge	7500	3/26	34	9.6	12.6	-
9C1	Crystal Lake	6100	3/29	42	17.3	13.4	11.8
10C7	Elk Peak	8000	3/27	43	14.4	-	-
10C2	Grasshopper	7000	3/27	13	4.0	7.2	5.6
10C1	Kings Hill	7500	3/29	32	8.3	13.5	13.8
10C3	Porcupine R. S.	6500	3/26	24	6.7	7.8	7.1
9A1	Rocky Boy	5200	4/1	15	4.7	4.4	5.2
10C6	Spur Park	8000	3/28	54	17.4	-	-

SOIL MOISTURE DATA

AS OF APRIL 1, 1963

(Inches)

SOIL MOISTURE STATION			SOIL PROFILE		CURRENT DATA		PAST RECORD	
NO.	NAME	ELEVATION	DEPTH	FIELD CAPACITY	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE
10C4M	Shields River	5850	48	17.8	3/29	13.8	12.4	-

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD). *ADJUSTED AVERAGE **AVERAGE FOR PERIOD OF RECORD

WATER SUPPLY OUTLOOK

UPPER YELLOWSTONE RIVER BASIN

MONTANA

AS OF:

APRIL 1, 1963

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

The water supply outlook for the coming irrigation season is only fair in the Yellowstone River drainage. Mountain precipitation during March was below average; therefore, forecasts this month are 5 to 10 percent lower than those issued last month. If the present trend of deficient precipitation continues, some shortages of irrigation water can be expected in the later part of the season.

Streamflow in the Yellowstone River drainage is forecast to be 15 to 25 percent below average and 15 to 40 percent less than last year.

Snow surveys made near the first of April indicate the mountain snow pack is 66 percent of last year and 71 percent of the 1943-57 average.

Report Prepared By:

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Soil Conservation Service
Box 855, Bozeman, Montana

Data included in this report were obtained in cooperation with other Federal, State and private organizations.

THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY

USDA-SCS-LINCOLN, NEBR. 1962

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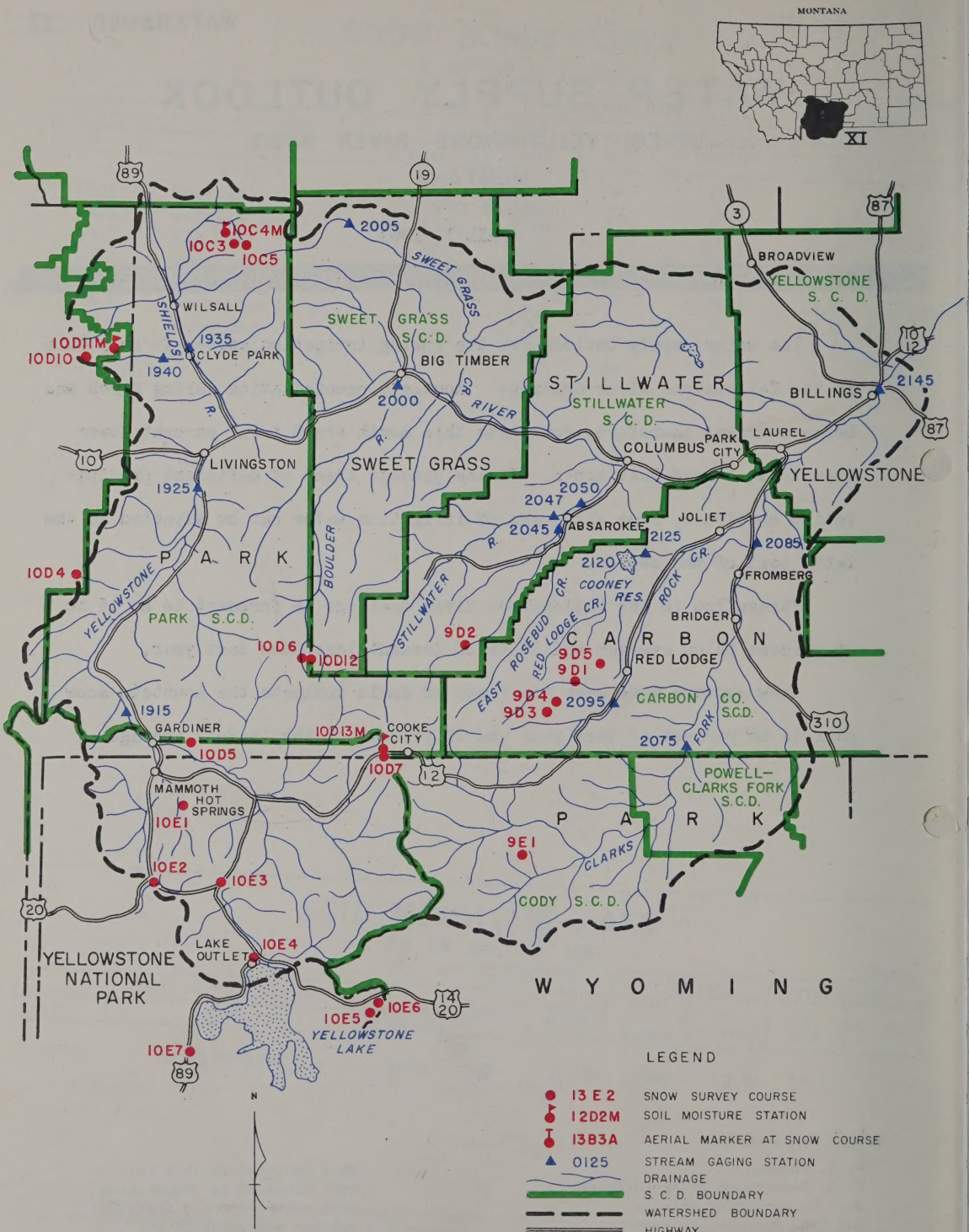

USDA-SCS-LINCOLN, NEBR. 1962

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WATER SUPPLY FORECASTS

WATERSHED XI

AS OF APRIL 1, 1963

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	YELLOWSTONE RIVER					
1915	Corwin Springs (at)	Apr-Sept	1520	77	2266	1980
		Apr-July	1265	77	1903	1649
1925	Livingston (near)	Apr-Sept	1737	77	2562	2252
		Apr-July	1430	77	2148	1863
2145	Billings (at)	Apr-Sept	3211	75	4577	4261
		Apr-July	2736	75	3854	3657
3090	Miles City (at)(12)	Apr-Sept	4956	74	7114	6721
		Apr-July	4333	74	6170	5883
3295	Sidney (near)(12)	Apr-Sept	5053	73	8124	6921
		Apr-July	4386	73	7190	6137
	SHIELDS RIVER					
1935	Clyde Park (at)	Apr-Sept	97.3	88	85.9	111
		Apr-July	90.0	87	77.4	103
	STILLWATER RIVER					
2050	Absarokee (near)(11)	Apr-Sept	515	83	637	620
		Apr-July	430	82	519	523
	CLARKS FORK RIVER					
2075	Chance (at)	Apr-Sept	449	73	622	617
		Apr-July	405	73	558	552
2085	Edgar (at)	Apr-Sept	468	72	678	652
		Apr-July	413	72	585	575
	ROCK CREEK					
2095	Red Lodge (near)	Apr-Sept	90.6	81	107	112
		Apr-July	69.8	81	82.8	86.3

(11) Corrected for storage in Mystic Lake.
(12) Corrected for storage in Buffalo Bill and Boysen Reservoirs.

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

RESERVOIR STORAGE DATA

AS OF MARCH 31, 1963

(1000 Acre Feet)

NO.	RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE
2040	Mystic Lake	20.8	6.5	4.4	5.7
2120	Cooney	27.5		15.1	12.7

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD)

SNOW SURVEY DATA

AS OF APRIL 1, 1963

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
10C5	Bald Ridge	7500	3/26	34	9.6	12.6	-
9D1	Camp Senia	7890	4/1	19	5.8	9.3	7.3
10E3	Canyon	7500	3/31	41	12.3	19.4	16.0
10D5	Crevice Mountain	8400	4/1	30	8.2	12.1	10.5
10D4	Devil's Slide	8100	3/30	64	22.4	25.4	21.2
10E6	East Entrance	7000	3/30	27	6.4	9.7	11.9*
9D3	Gertrude Lake	9250	4/1	35	10.5	17.8	-
9D5	Grizzly Peak	8400	3/29	51	14.9	23.6	-
10D6	Independence	8000	3/25	51	15.4	19.8	18.4*
10E4	Lake Camp #2	7850	3/31	20	4.6	14.4	12.3*
9E1	Lodgepole	8200	4/1	34	9.4	11.1	13.1*
10E1	Lupine Creek	7300	3/29	26	4.4	12.6	11.6*
10D12	Monument Peak	9000	3/25	62	19.8	27.6	-
10E2	Norris Basin	7500	3/28	34	8.0	12.4	10.3*
10D7	Northeast Entrance (Cooke City)	7400	3/30	27	7.4	9.3	9.5
10C3	Porcupine	6500	3/26	24	6.7	7.8	7.1
10D10	Sacajawea	6550	3/29	41	13.8	13.2	-
10E5	Sylvan Pass	7100	3/30	39	10.5	10.9	15.9*
10E7	Thumb Divide	7900	3/27	44	12.9	29.0	25.4*
9D4	Timberline Creek	8850	4/1	38	11.0	18.8	-
9D2	West Rosebud	7500	3/29	27	7.4	-	-

SOIL MOISTURE DATA

AS OF APRIL 1, 1963

(Inches)

SOIL MOISTURE STATION			SOIL PROFILE		CURRENT DATA		PAST RECORD	
NO.	NAME	ELEVATION	DEPTH	FIELD CAPACITY	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE
10D11M	Battle Ridge	6020	48	15.4	3/29	14.3	14.8	-
10D13M	Northeast Entrance	7350	48	9.4	3/30	7.0	-	-
10C4M	Shields River	5850	48	17.8	3/29	13.8	12.4	-

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD). *ADJUSTED AVERAGE **AVERAGE FOR PERIOD OF RECORD

WATER SUPPLY OUTLOOK

MILK RIVER BASIN
MONTANA

AS OF:

APRIL 1, 1963

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

The water supply outlook for the coming irrigation season is fair to poor in the Milk River drainage. The April through September forecast flow for the Milk River at Eastern Crossing is 154,000 acre feet. Combined with storage in Fresno Reservoir, this provides about 203,000 acre feet of water available for irrigation. The 1943-57 combined storage and streamflow is 320,000 acre feet. Water available for irrigation this season will be about 63 percent average and 82 percent of last year.

Snow surveys made near the first of April in Montana indicate the mountain snow pack is 68 percent of last year and 52 percent average.

Snow surveys made in the Bow River drainage in Alberta, Canada indicate the snow pack is 71 percent of last year and 68 percent average.

Reservoir storage is below average in Fresno and slightly above average in Nelson. Storage in both reservoirs is greater than last year at this time.

Report Prepared By:

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Box 855, Bozeman, Montana

Data included in this report were obtained in cooperation with other Federal, State and private organizations.

THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY

USDA-SCS-LINCOLN, NEBR. 1962

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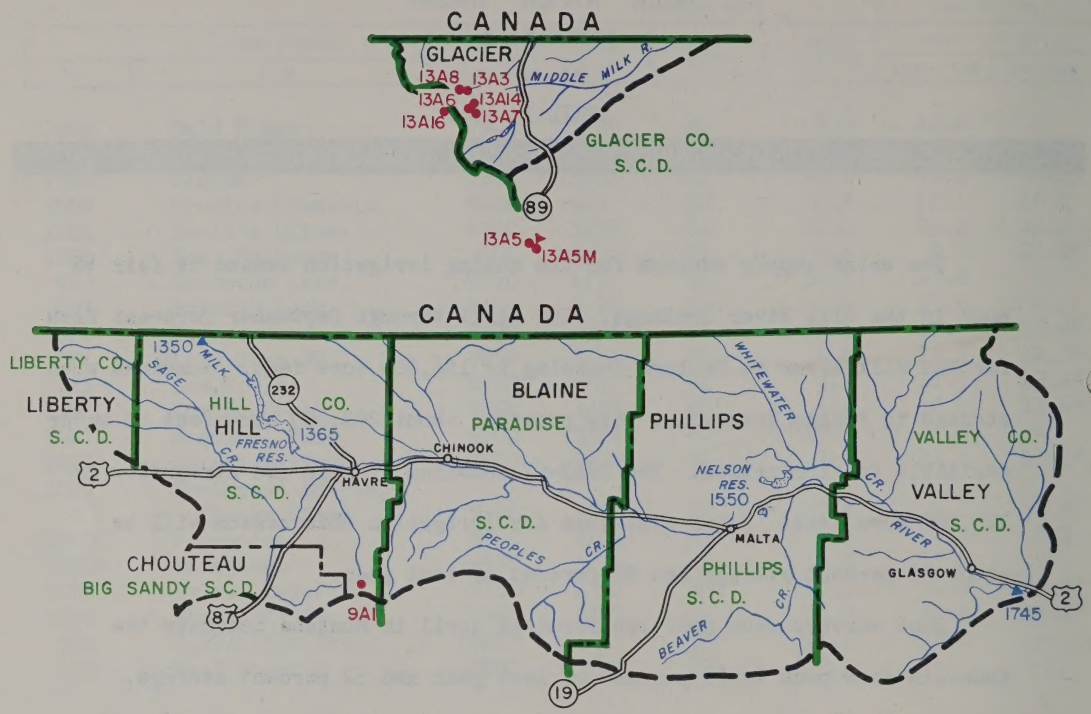
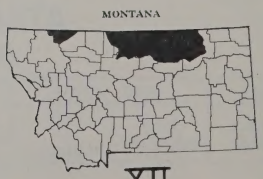


LEGEND

13E2	SNOW SURVEY COURSE
12D2M	SOIL MOISTURE STATION
13B3A	AERIAL MARKER AT SNOW COURSE
0125	STREAM GAGING STATION
	DRAINAGE
	S. C. D. BOUNDARY
	WATERSHED BOUNDARY
	HIGHWAY
	TOWN
	COUNTY BOUNDARY
	STATE BOUNDARY



XII

SCALE 10 0 10 20 30 40 50 MILES

USDA-SCS-LINCOLN, NEBR. 1962

5,L-18,932

WATER SUPPLY FORECASTS

WATERSHED XII

AS OF APRIL 1, 1963

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW LAST YEAR*	MEASURED FLOW AVERAGE
	MILK RIVER					
1350	Eastern Crossing (at)	Apr-Sept	154	66	212	234

*PROVISIONAL DATA FURNISHED BY U. S. GEOLOGICAL SURVEY

RESERVOIR STORAGE DATA

AS OF MARCH 31, 1963

(1000 Acre Feet)

NO.	RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE
1365	Fresno	127.2	49.0	37.8	85.6
1550	Nelson	66.8	42.5	15.4	33.7

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD)

SNOW SURVEY DATA

AS OF APRIL 1, 1963

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
						WATER CONTENT	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE
13A5	Marias Pass	5250	3/29	31	9.2	18.1	20.3
13A16	Mineral Creek	4000	3/26	35	11.6	15.2	23.9*
9A1	Rocky Boy	5200	4/1	15	4.7	4.4	5.2
	BOW RIVER - CANADA						
Alb. 1	Bow River	5100	3/28	26	5.8	8.1	8.7
Alb. 2	North Course	5400	3/28	28	6.0	7.8	8.9
Alb. 3	Pipestone River	5100	3/28	23	5.1	7.2	6.6
Alb. 5	Lake Louise	5800	3/27	30	8.0	9.3	11.2
Alb. 6	Mirror Lake	6600	3/27	36	8.6	11.0	12.5
Alb. 8	Miscl. Lake Louise	5700	3/27	37	7.4	10.4	11.1
Alb. 9	Forty Mile Creek	5500	3/26	18	4.1	9.8	7.5*

SOIL MOISTURE DATA

AS OF APRIL 1, 1963

(Inches)

SOIL MOISTURE STATION			SOIL PROFILE		CURRENT DATA		PAST RECORD	
NO.	NAME	ELEVATION	DEPTH	FIELD CAPACITY	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE
13A5M	Marias Pass	5250	54	6.5	3/28	6.0	5.5	5.4

NOTE: ALL AVERAGES BASED ON 1943-1957 (15 YEAR PERIOD). *ADJUSTED AVERAGE **AVERAGE FOR PERIOD OF RECORD